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VISUAL RESOURCE MANAGEMENT  
AND THE  
RECREATION OPPORTUNITY SPECTRUM:  
A CASE FOR CHANGE

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## ABSTRACT

This paper examines the innate psychological demand by human beings for naturalness in forest environments. It shows that the recreation experience benefits are primarily aesthetic and emotional.

It discusses the inadequacies of the current Visual Quality Objective descriptors in communicating landscape design. It suggests simple, yet powerful, approaches and methods to use to assure naturalness in resource management and subsequent lessening of conflict both inside and outside the Forest Service.

## **I. Introduction**

### **A. The Problem:**

Recreation interests and demands have reached beyond developed campgrounds and trails. More and more recreation takes place in areas without the traditional facilities or features (nearly 80% of all recreation takes place in undeveloped environments when ski area use is factored out of total use estimates). These areas have been primarily managed for other resources and the Forest Service struggles in a dilemma of whether or not to formally recognize the growing recreation use as well as how to manage for it.

Traditional resource management philosophy has to date hindered an atmosphere wherein the agency can openly and fully deal with the growing recreation use across the entire landscape and provide full integration for the multiplicity of demands and conflicting values. This phenomenon involves both the public against the agency and internally one functional staff against another.

As the struggle intensifies, systems that were developed to facilitate integration of management activities, i.e., the Visual Resource Management System (VRM) and the Recreation Opportunity Spectrum (ROS), are being used against other resources (notably timber management) to severely restrict or prevent these more disruptive, at least in perception, activities from taking place in the semi-primitive portions of the recreation opportunity spectrum.

This paper will analyze the reasons behind the demand for naturalness which drives the conflict, the failure of the present system to adequately mitigate the hassle and suggest new methods and approaches to resolution.



## II. Discussion

Discussion of this issue with several professional associates led me to recent efforts by Christopher C. Marvel, previous Landscape Architect, Medicine Bow National Forest. This paper borrows in part from theory and experience Chris has evolved and put into practice on that Forest. I share his experience with his full knowledge and support in our mutual hope that an exciting new approach to managing for naturalness will be more quickly shared and implemented.

The heart of the problem surrounding use of the VRM and ROS seems to be:

1. Lack of consensus and understanding of a clear objective to answer what aesthetic (in the way a National Forest looks) will satisfy the need of the majority of the people to fulfill their need for naturalness.
2. Our internal failure to look at the macro (large scale) environment, mosaics of vegetation, as the primary factor in maintaining aesthetics of a forest.
3. Lack of agreement of how to produce natural appearance (an acceptable aesthetic for timber harvest) and the willingness to pay for it.

### Problem No. 1:

"Beauty is neither inherent in the landscape nor purely in the eye of the beholder; it is a product of an encounter between an observer and the landscape" (Brown and Daniel, 1984).

Affect (used here synonymous with emotion) is central to conscious experience and behavior in any environment including natural, built, crowded or remote.

Since almost no meaningful thoughts, actions, or environmental encounters occur without affect (Ittleson, 1973; Izard, 1977; Zajonc, 1980), an affective state is an important indicator of the nature and significance of a person's ongoing involvement with a given environment (Lazarus, Kanner and Falkman, 1980, p. 190), (Ulrich, 1983).

Rossmann and Ulehla, 1974 and Shafer and Mietz in 1969 displayed evidence that strongly supports the idea that aesthetic and emotional experiences are the most important benefits realized by many recreationists in the natural environment.

Ulrich reports that in the last 20 years, substantial progress has been made in the area of emotions theory and research. That work is a rich resource for environment behavior research, much of it relevant to an understanding of affective and aesthetic reactions in the natural environment. A major problem is evident. Forest management schools have not incorporated advances from the emotions research into any form of practical application. Specialists within the management agencies need to be much more aware of and understand the theoretical concept of an affective response to the natural environment. It is

central to an understanding of where different natural stimuli or landscape configurations can cause quite different aesthetic reactions.

Ulrich makes another case, based on research by Zajonc (1980), Ittleson (1973) and Izard (1977) that affective (emotional) reactions to natural environments need not depend on cognition (active thought). The initial stage of response to a given scene consists of global, generalized affects related to preferences (e.g., liking, disliking, fear, and approach - avoidance behavior). The onset of these reactions takes place almost immediately and is based on very little information. Zajonc asserts that "we can like something or be afraid of it before we know precisely what it is and perhaps even without knowing what it is" (1980, p. 145). Zajonc speculates that emotions about the environment can take place with little information and without precise recognition because of a class of features and stimulus characteristics called "preferenda" (1980). These are gross, vague, configural aspects that are insufficient as a basis for rational thought and judgments but are often highly effective in causing emotional response. Ittelson correlates this by claiming that the initial emotion (affect) is a general response to the "ambiance" of an environment (1973, p. 16).

This is to point out that all of us bring capabilities for perceptions and feelings to the forest environment. We do not need to have any previous experience with a given environment or aesthetic situation. What is given is that we will react to that environment, often without thoughtful knowledge as to why. As will be shown, we can also draw upon psychological research to quite accurately predict the visual properties that influence preference and thus satisfaction. If we can do this, we can certainly manage the landscape and settings to provide the optimum level of visitor satisfaction. Ignoring these facts of emotional response can certainly lead to continuation of current dissatisfaction with aesthetic management by natural resource managers.

The major visual properties that influence aesthetic preference and interest are:

Complexity This refers to the number of independently perceived elements in a scene. High complexity is denoted by large numbers of elements with dissimilarity among elements. Findings from a number of laboratory studies indicate that aesthetic preference or pleasantness is related to complexity in an inverted-U-shaped manner (Berlyne, 1971). High pleasantness tends to be associated with moderate levels of complexity, whereas low preference is linked with extremes of either low or high complexity.

Structural  
Properties

Gross structure of natural stimuli occur in a number of ways; homogeneous textures, repeated elements, grouping of elements, and properties that provide continuity among separated or dissimilar elements. Focality is a key and easily discernible element of structure.

Depth

Several investigations have identified significant positive relationships between depth and aesthetic preference for natural scenes. Preference levels are higher for tree stands having some visual depth or openness. (Ulrich, 1983)



Ground  
Surface  
Texture

Textures of ground surface are extremely important in defining depth and therefore are strongly linked to preference. Scenes having rough, irregular textures indicate unordered high complexity that works against preference.

Threat/  
Tension

This is a response to perceived dangers in the environment. Some may be real such as avalanches, the edge of a steep cliff, or roiled water surfaces. Others are purely perceived in that we cannot clearly discern just what might lurk there where we cannot clearly see.

Deflected  
Vistas

The line of sight is deflected or curved. This invokes curiosity and is therefore highly cognitive and is probably not a major factor in initial emotional reaction. This factor makes scenes more interesting and attractive as one is drawn into them and cognitive thought takes place.

Water

A landscape element that evokes interest, aesthetic pleasantness and tranquil feelings. Even though negative reactions are associated with some water scenes, by and large, water features are synonymous with high levels of preference or pleasantness.

In light of the above, Ulrich (1983) concludes that a scene should be preferred if (See photographic examples at Appendix P):

1. Complexity is moderate to high. (P-1)
2. The complexity has structural properties that establish a focal point and other order or patterning is also present. (P-3)
3. There is moderate to high level of depth that can be perceived unambiguously. (P-1)
4. The ground surface texture tends to be homogeneous and even and is appraised as conducive to movement. (P-1)(P-2)(P-3)
5. A deflected vista is present. (P-3)
6. Appraised threat is negligible or absent. (P-1)

Although these properties together will elicit liking, preference will be greater if water is present in the scene.

Low preference will be characterized by:

1. Either low complexity, or unstructured high complexity with no focal area.
2. Restricted depth.
3. Rough, uneven ground surface textures that are obstacles to movement.
4. Absence of both a deflected vista and water features.
5. High appraised threat.

Ulrich compared the efficacy of this model with both American and Swedish subjects (Ulrich, 1977). The patterns of preference ratings for both groups were clearly consistent with this model. The Swedish and American groups were also in clear agreement with the model as it related to low preference scenes.

"One of the most clear cut and potentially important findings to date is the consistent tendency for North American and European groups to prefer even unspectacular natural scenes over the vast majority of urban views" (Ulrich, 1983). This fact taken in concert with findings of Rossman and Ulehla and Shafer and Mietz (aesthetic and emotional experiences are the most important benefits realized by many recreationists in the natural environment) make it extremely important that management agencies like the Forest Service pay particular and increasing attention to how things look during and after resource management activities. Our human psychological makeup determines that we have strong preferences for naturalness in the environment and we will strongly express these desires without really knowing why we have them. They cannot be mitigated by scientific rationale for sloppy forest management or lack of funds to do the proper and adequate job. Our very humanness guarantees that there will be demands for high degrees of naturalness in the environments the Forest Service administers. If these demands are not met, there will be continuing controversy and all of its concomitant effects. It seems clearly evident that the customers must be heard and heeded. If that is so and accepted, how should the agency respond?

## Problem 2.

Our internal failure to look at the large-scale environment (mosaics of vegetation) as the primary factor in maintaining aesthetics of a forest.

The Visual Resource Management System used by the Forest Service appears to draw heavily on, or be concurrent with the model depicted on pages 3-5. It seems to support a rationale that the landscape design principles that make a natural landscape desirable are the same ones that assure naturalness, and hence, desirability of a managed forest.

Many, if not most of the forest environments the Forest Service works in and within the Rocky Mountain region are in a relatively virgin natural state. The current vegetation mosaics were produced by large natural disturbances, i.e., insect epidemics and fire, during approximately the last 100 years. Outside of the continuation of natural processes, chiefly insect activities and the recent Yellowstone area fires, timber harvest activities are the major reshapers of mosaics at this time.

From previous discussion it would appear that in order to retain a high degree of naturalness in the forest environment, it would be necessary to duplicate nature's macro-approach to mosaics. This would mandate a new focus of initial attention on the landscape design variables; an initial and dedicated attempt to emulate nature. This approach would also demand a larger scale of treatment within a relatively short time span to preserve or retain characteristic landscapes. The characteristic landscape envisioned in the VRM system seems at first glance to be a large-scale vegetative/land form mosaic in the overall forest natural scheme. But, more detailed attention to application indicates a



micro-aesthetic approach which is oriented primarily from an individual's point of observation on certain segments of the larger mosaic.

From the standpoint of forest management, whether a given mosaic is managed or not is a moot point. The important variable is whether or not it appears natural. The macro aesthetic initial approach, dealing with the mosaic as it exists and how it is to be preserved, retained or modified becomes the keystone to naturalness. In this context, the terms germane to the VRM system can be more easily understood and used.

There is, however, some potential for lack of clarity between the Visual Quality Objectives preservation and retention. Webster defines "preserve" as to keep or save from harm or destruction, to keep in the same state. "Retain" is defined as to keep possession of, to hold in place or position. Forest Service use of these terms seems to be somewhat different although related. Current context and usage seems to denote a hands-off, no action approach for the objective "preservation" while "retention" indicates making the end result look similar to (or not a whole lot different) than what you started with. The current context relates directly to a micro-aesthetic, single observer position/landscape relationship. As we try to interpret the system it is obvious that the visual quality objectives have become inherently value laden and difficult, if not nearly impossible, to effectively communicate macro-aesthetic management technique.

On one side we have the "white-hat" objectives, "preservation" and "retention". These and other objectives to be discussed in a moment take on strong values as they are related to positions on the continuum of the Recreation Opportunity Spectrum (ROS). Clues to the value system at work are found in Chapter 60 of the ROS User's Guide, Section 631, ROS Setting Indicators, (Appendix A) expressed as limits of acceptable change to maintain the integrity of each ROS setting.

"Preservation" is the stated norm for any land area designated for primitive setting management. Nothing else is acceptable. From a macro-aesthetic viewpoint, no activity and preservation of a given mosaic are contradictory. Natural processes are not static over time. No vegetative condition remains the same over a long term. So, do we mean "preservation" of the characteristic landscape (undefined as to size) or hands-off (no vegetative management activity)?

"Retention" is labeled inconsistent with primitive settings and the norm for semi-primitive non-motorized settings (Chapter 60, ROS User's Guide). At the same time, acceptable access for both primitive and semi-primitive non-motorized settings is limited to non-motorized trails. This is clearly restrictive compared to semi-primitive motorized settings which allow primitive roads.

A "partial retention" visual quality objective is the norm for semi-primitive motorized settings. The corresponding access limit of acceptable change is a primitive road. Unless resource management activities were planned and implemented either totally devoid of roads or all roads were totally obliterated, it is apparent that primitive and semi-primitive non-motorized settings are hands-off, no activity zones.

On the other hand, we have the "black hat" objectives; modification and maximum-modification. "Modification" of characteristic landscapes is acceptable (the norm) for both roaded natural and rural ROS settings. "Maximum-modification" is only acceptable in rural settings which in itself is by direction not normally an appropriate management objective (setting) for National Forest lands.

It seems obvious that a system initially conceived to assure naturalness of the forest environment (macro-aesthetic in concept) has become to be applied in a fashion (micro-aesthetics) that limits attainment of any degree of retention of naturalness across a forest unless the predominate vegetation management mode is hands-off, no activity, i.e., visual resource objective "preservation" or "retention". The strong application of these otherwise worthwhile principles in a micro-aesthetic approach works directly against retaining a broad perspective natural forest environment at least as we currently know western United States National Forests. Current application of both ROS and VRM are analogous to a lot of unsightly divots scattered across the otherwise smooth grass cover of a golf course fairway. Where large mosaics occur in the natural forest environment, "preservation", "retention", or even "partial retention" objectives can only be met on a macro-aesthetic basis by comparative large-scale vegetation management actions. This is a whole new way of thinking and acting. A key question to this suggested change in consciousness is for what the agency is managing? Is it to produce various individual commodities with attention to aesthetics at local important places? Is it to manage a total forest ecosystem with production of various commodities and outputs as a by-product of that effort wherein retention of naturalness is a key objective? Or is some as yet unarticulated combination of both. An old adage says that if you don't know where you are going you won't ever know when you get there. It seems apparent that attention to functional goals with mitigation offered to make things look better is not acceptable to the broad user, owner publics that we serve. The foregoing discussion gives clues to why it is not working.

The VRM system has been around for a long time, nearly 25 years. ROS is newer, about 8 years. Neither is yet well understood nor really integrated into the agency's everyday management process. Their major apparent use is twofold; 1) as constraints to active extractive management activities, and 2) as focal points for debates about the attainment of "hard-targets" at a minimal cost versus "too much attention to all that social/psychological stuff you recreation people keep trying to drag us into".

### Problem 3.

This problem is characterized by lack of agreement of how to produce natural appearance (an acceptable aesthetic for timber harvest) and chiefly the willingness to pay for it.

Prior to the ROS appearing on the scene, the Forest Service seemed to feel fairly comfortable with dumping the visual garbage in the backcountry somewhere between the roadside and trailside zones of the roaded natural settings and wilderness. ROS created those hard to deal with semi-primitive non motorized and motorized settings. On some units these setting areas are quite large and of course relatively undeveloped/unmanaged. This fact makes them highly



vulnerable to change primarily through timber harvest as the agency pushes new roads into undeveloped areas for an array of management activities.

In the original ROS presentation made at Tucson, Arizona, by Brown, Driver and McConnell (1978), there was early recognition of some necessary latitude for active "renewable resource modification" in all parts of the spectrum.

"Primitive" allowed 0-30% of the area to include "nonpermanent alteration of natural environment". Semi-primitive non-motorized (SPNM) and semi-primitive motorized (SPM) both allowed nonpermanent alteration of 0-70% of the total area. With respect to roads, primitive envisioned 0-1% of total area to include irreversible evidence of man (mines, reservoirs, roads, etc. which cannot be feasibly obliterated), SPNM and SPM 0-5% of total area.

Thus the original proposed guidelines allowed for roads for management access in recognition that such roads would not be continually used. They also recognized the need and long-term appropriateness of considerable short-term, non-permanent alteration of natural (status-quo) settings to retain a characteristic landscape over the long haul.

A 1986 draft handbook, "ROS as a Management Tool" from R-6 articulated a much more restrictive approach to SPNM and SPM meetings. Non-recreation uses in the various settings were specified as follows:

Primitive - "Setting should essentially be an unmodified natural environment. No timber harvest or mineral extraction is allowed. VQO of presentation is the norm. Existing primitive roads should be revegetated if not used as recreation trail."

Semi-primitive,  
Non-motorized "Natural setting may have subtle alterations that would be noticed but not draw the attention of an observer wandering through the area. VQO of foreground retention is the norm. Vegetative management may range from no timber harvest to very limited regeneration cutting and sanitation salvage for the purpose of maintaining a healthy, attractive semi-primitive setting. Amount of regeneration cut per decade must not exceed 3-5% of the commercial forest land." (Author's note: This may be workable. Foreground visitor views/preceptions are kept at retention. Vegetation management seems geared toward retaining the setting; cutting area per decade may be small dependent upon total area (+ 2,500 ac.), particularly if your objective is to retain the characteristic natural landscape (macro-aesthetic). No new roads may be built.)

Bingo! Now we've got you. And you thought all that previous stuff was pretty nice. If you have not entered this area before, you are not going to get there in the future. So what does this mean? It means in the absence of existing roads, the area is really primitive except for some peripheral existing impact in the remoteness criteria. This

sets up a fight for territory, recreation vs. others, situation.

**Semi-private,  
Motorized**

"Natural setting may have moderately dominant alterations to the visitor wandering through. However, from trails and primitive roads they would remain visually subordinate. VQO of partial retention is the norm. Vegetative management may range from no timber harvest to limited regeneration cutting and sanitation salvage for the purpose of maintaining a healthy, attractive semi-private setting. Harvest unit must meet foreground partial retention. Amount of regeneration cut per decade must not exceed 6-7% of the commercial forest land. Motorized harvesting and mineral exploration and extraction may be done over primitive road systems primarily in the low public use season. . . ."

Under other guidelines, they go on to specify that "human activities [are] to remain subordinate to foreground distance zones (200' to 300'). Human activities should not be recognizable in middleground and background distance zones."

With the exception of the total prohibition against any new roads in SPNM and potential possible problems with acreage treatment per decade being counter-productive to retention of macro-aesthetics, this approach to description of facts of the setting seems to make better sense than terse use of value laden jargon/technical terms, i.e., "preservation," "retention," etc.

The point is that communication of aesthetic design intent associated with timber harvest and concomitant road needs is extremely difficult and ambiguous if you cannot clearly articulate and define what is actually wanted. I have shown where terminology conceived for a macro-aesthetic viewpoint, while not totally clear from origination, becomes heavily value laden and incapable of clear understanding when applied to micro-aesthetics.

We need to be clear in our organizational goals! For what purposes is the agency managing? Is the emphasis on truly integrated management of forest resources or on specific commodities with attention given to ameliorate the effects of that activity on other effected resources? Current evidence indicates the latter is the predominant approach at this time.

Tom Peters in his new book, "Thriving on Chaos, Handbook for a Management Revolution," makes a strong case, no!, makes it imperative for organizational survival that "the customer is identified and made central to all affairs . . . employee involvement and improvement programs in pursuit of responsive service are the essential concern of the top public sector bosses." He advocates a "porous" organization listening intently to its customers and making necessary adjustments rapidly.

I believe that the Forest Service can accept this admonition; change and succeed, or refuse to believe its validity; continue to ignore all the signals (appeals, lawsuits, etc.); continue in technical arrogance, and be ultimately replaced in form and/or substance with a new management entity. I believe the keys are imbedded in managing the forests in the region involved with the Rocky



Mountains first and foremost for recreation and associated values, including wildlife and fish, in full recognition that aesthetic and emotional experiences are the most important benefits realized by many recreationists in the natural environment.

Analysis of the various forces at work seeming to block agreement on what form of "naturalness" to pursue, and its subsequent attainment seem to focus on, 1) disparate terminology involving jargon rather than clearly articulated objectives, i.e., the current VQO's; and 2) problems with road development and what that means to the more primitive recreation opportunity classes, i.e., SPNM and SPM.

Previous discussion has centered on the visual quality problem. Let's look for a moment at the road situation.

Forest Service engineers are by-and-large products of civil engineering schools. They have learned well the dictum surrounding road standards appropriate to the regular world of commodity transportation involving safety, efficiency and even aesthetics of the facility itself. These facets have long been expressed as standards for planning and development of forest access roads in the National Forests. They lend themselves to standardization, ease of duplication, measurement, and regular maintenance. At the same time, they defy or at least strongly resist subjective manipulation of basic principles into more informal temporary roadways or more appropriately classed primitive roads or vehicle ways. For many engineers, the latter class of facilities is something that just happened and usually needs fixing or obliteration. But at the same time, this primitive undesigned-appearing road may be even easily obliterated or shifted to use as a foot trail. This is exactly what is needed to fit within the semi-primitive recreation opportunity settings. The lack of standards and/or understanding of need and realistic change by the Forest Service has resulted in a drive toward prohibition of new roads in the semi-private settings by recreation, visual, and wildlife specialists. This can eventually lead to a serious diminution of these settings over time as the agency reaches for new timber management areas unless changes in the approach to road standards can be effected.

## SUMMARY AND CONCLUSIONS

### A. Summary

Studies of emotions theory strongly support the idea that aesthetic and emotional experiences are the most important benefits realized by many recreationists in the natural environment. Emotional reactions to natural environments (forest landscapes) do not depend on cognition; they take place with little information and without precise recognition as to why. These reactions are rather gross, vague, configural aspects that are insufficient as a basis for rational thought and judgments, but are highly effective in causing emotional response.

It is quite predictable using the emotional research to match landscape characteristics to human preference. The facets of such a scene are:

1. Complexity is moderate to high.
2. The complexity has structural properties that establish a focal point and other order or patterning is also present.
3. There is a moderate to high level of depth than can be perceived unambiguously.
4. The ground surface texture tends to be homogeneous and even and is appraised as conducive to movement.
5. A deflected vista is present.
6. Appraised threat is negligible or absent.

The Recreation Opportunity Spectrum includes important parameters for limits of acceptable change for the various parts of the spectrum or recreation opportunity. These are couched in the Visual Quality Objective statements of Preservation, Retention, Partial Retention, Modification and Maximum-Modification. Both of these systems, as currently used, concentrate on evaluating change from the basis of observer variables rather than landscape design variables. While the point of observation (viewpoint) is important in determining observer/landscape relationships, it deals only with the micro-aesthetic environment. In reality, the entire landscape design variable is more important to the total scheme of things than the observer variable.

Vegetation mosaics in the Rocky Mountains are the result of rather large phenomena. To maintain the look of these natural mosaics, the concept of natural appearance in terms of design principles is critical. Landscape scenes need to appear natural from a variety of vantage points, not just one. The current VQO words do not clearly communicate the ideas of natural appearance; shape, and linkage. What was yesterday approved as meeting the area's VQO is today unacceptable because of new use or access. It is simply a fact; use and viewing points (observer/landscape) change rather readily over time. The vegetation mosaic pattern is much more stable over the same period.

We need to provide land managers a simple, easily defined system to translate and explain design.

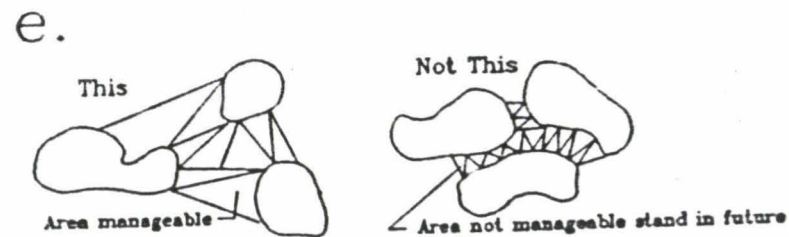
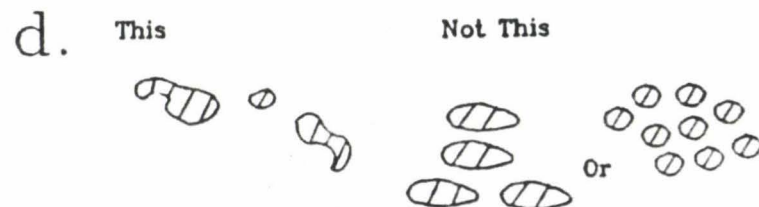
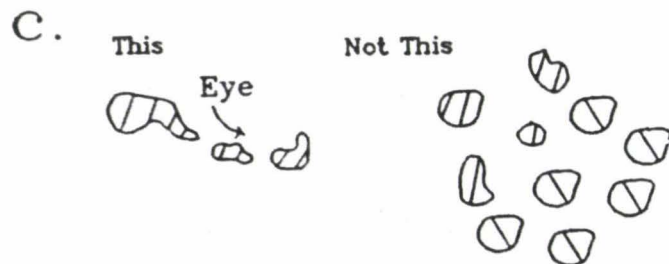
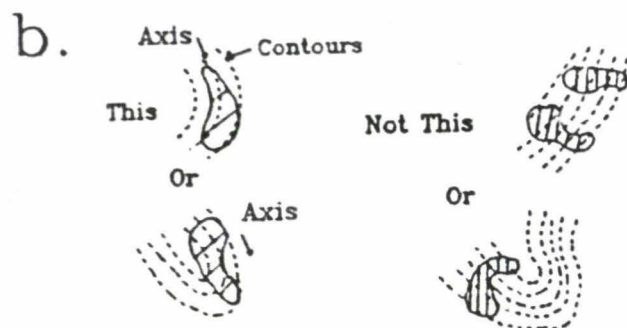
## B. Conclusion

A unique and simple solution to the duplication of naturalness has been developed and used on the Medicine Bow National Forest. It is thoroughly supported by the emotional theory research and resolves the value laded jargon problem associated with trying to communicate landscape design through use of the VQO statements.

That system, in all its simplicity is:

(Courtesy of Christopher C. Marvel)

1. Using aerial photographs, measure several natural openings which are within, or just adjacent to, the perimeter of the timber sale area. This is the approximate range of size of openings which your sale should use in its harvest design to help create natural appearance. This is a feature in the area which should be synonymous with this area's landscape character type. (P-4)





2. Lay out the harvest blocks so they do not violate any of the following principles:

- A. Units should be irregular in shape--avoid straight lines. Follow natural type lines. Avoid having a shape with an edge which has too much variation. Compare the natural opening produced by nature in the sale area to determine the edge a shape should have. (P-6)
- B. Axis of the shape should be parallel to slope contours or parallel to minor ridges running down slopes. (P-5)
- C. All harvest units should have visual linkage. This means that the harvest unit axis should link smoothly together so that the eye easily follows them. (Focality) (P-5)
- D. Avoid regular spacing of harvest units. Avoid same size harvest units. Spacing should be irregular and size of units should vary for good diversity and natural appearance. (P-6)
- E. Choose a size of harvest unit that is compatible with existing openings or which correspond to natural stand boundaries if no openings exist. (See A.) Avoid unit sizes which are either too small or too large by comparing them to natural openings or natural stand boundaries within or adjacent to the sale area. (P-6)
- F. Avoid leaving a small strip in between two treated stands. The area left should be of sufficient size to be considered a manageable stand. (Marvel, 1988) (P-7)
- G. Opening characteristics match the model of preferred naturalness along the principal human travel routes. (P-8)

As the above stated process is totally congruent with the six facets of a preferred landscape, so must the visible environment (landscape) be to the observer along his/her entire route through the forest. This means that additional or special attention needs to be paid to all parts of the scene, from both afar and close-up. A prescription for treatment must be clearly articulated in more than buzz-words like "retention" or "partial-retention." The facets of complexity, focality, depth of sight, ground surface texture, and deflected vistas need to be designed, explained, and carried out.

The simple truth is that we cannot dump our visual garbage in any area that involves or invites significant recreation use. If these principles are actually practiced, including bearing the concomitant costs, resource management (vegetation manipulation) can be practiced in the semi-primitive recreation portions of the forest. If these principles are eschewed because they are too costly, one of several things will happen:

- 1. Many large areas of the forest environment will remain unmanaged; or
- 2. The semi-primitive portions of the spectrum will be slowly but surely sacrificed as the agency pursues "hard target" production; or

3. Public opinion through controversy will eventually bring about either a drastic change in the agency's mission and make-up or its demise.

Attention to the demand for naturalness will win out in the long run. It cannot be explained or educated away. The demand for naturalness is simply a part of our human psychological make-up. As recreation becomes increasingly important as a major National Forest resource, so must the attention by managers to aesthetics, both macro and micro become. This paper provides a simple, easy to apply, albeit more costly than currently practiced, method to manage for naturalness.

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R-6, 1986.

## APPENDIX A



## 63 - APPLIED GUIDELINES

### 63.1 - ROS Setting Indicators

The following indicators help determine the impacts on ROS settings of implementing alternative project designs.

1. Access
2. Remoteness
3. Visual characteristics
4. Site management
5. Visitor management
6. Social encounters
7. Visitor impacts

These seven indicators have been identified from research on visitor preferences as well as professional judgments. They represent aspects of recreation settings that facilitate a range of experiences. They are also aspects that managers can influence.

The following indicator guidelines are developed to provide general consistent application of the ROS system throughout the National Forests. These indicators represent the limits of acceptable change to maintain the integrity of each ROS setting. The limits of acceptable change are based on ROS setting criteria found in Chapter 10 "ROS Guidelines". Forest Plan management prescriptions, standards and guidelines, and other Regional direction should fall within these limits and provide necessary added detail.

Certain situations may require localized adaptations. These adaptations represent setting inconsistencies identifying conditions outside the normal range, but may be appropriate under certain situations. Inconsistencies can occur when the conditions for an indicator are temporarily or permanently changed or in the process of meeting integrated resource management objectives. Where this is necessary, managers must support their decision to deviate from these guidelines. Inconsistencies are discussed further in 63.2(7).

(1) Access - Includes the type of recreational transportation used within the area, the difficulty levels of trails, and service levels of roads.

Access influences both the levels and types of recreation use an area receives. Improved access can lead to increased use, resource impacts, and an increased need for management action. Access affects the way in which some recreation experiences can be realized. For example, highly developed access can reduce opportunities for solitude, risk, and challenge; on the other hand, it promotes convenience and facilitates experiences associated with meeting and enjoying others.

#### ACCESS

	I Cross-Country Travel	IV Non-Motorized Trails	III Motorized Trails and Primitive Rds. (Traffic Ser D)	IV Controlled (2) TSL B & C Rds	V Full Access (2) TSL A, B & C
PRIMITIVE	Norm	Norm			
SEMI-PRIMITIVE NON-MOTORIZED		Norm	Inconsistent	Unacceptable	
SEMI-PRIMITIVE MOTORIZED			Norm	Inconsistent	
ROADED NATURAL	Fully Compatible			(1) Norm	Norm
RURAL					Norm
URBAN					Norm

(1) Roaded Natural may be prescribed in certain circumstances with roads partially or fully closed.

(2) TSL - Traffic Service Level.

#### LEGEND

FULLY COMPATIBLE - Conditions that meet or exceed the norm.

NORM ----- The normal conditions in the physical setting.

INCONSISTENT ----- Conditions that are not generally compatible with the norm, but may be necessary under certain circumstances to meet the management objective.

UNACCEPTABLE ----- Unacceptable conditions under any circumstances for a given setting.

(3) Visual characteristics - The key to managing the landscape character in each ROS setting is to use a compatible visual quality objective and its corresponding guidelines. The visual quality objective describes varying degrees of allowable alteration of the characteristic landscape in each ROS setting. The relationship between ROS classes and visual quality objectives is summarized in the following matrix.

VISUAL QUALITY (5)

	PRESERVATION	RETENTION	PARTIAL RETENTION	MODIFICATION	MAXIMUM MODIFICATION
PRIMITIVE	Norm	Inconsistent	//////	//////	//////
SEMI-PRIMITIVE NON-MOTORIZED		Norm	Inconsistent	//////Unacceptable//////	//////
SEMI-PRIMITIVE MOTORIZED			(1) Norm	Inconsistent	//////
ROADED NATURAL		(2)	(2)	(3) Norm	(4) Inconsistent
RURAL	Fully Compatible		(2)	Norm	Inconsistent
URBAN					Norm

(1) Norm from sensitive roads and trails (see USDA Handbook 462)

(2) Norm where Roaded Modified subclass is used (see USDA Handbook 462)

(3) Norm only in Mg2 where Roaded Modified subclass is used (see USDA Handbook 462)

(4) Unacceptable where Roaded Modified subclass is used

(5) See USDA Landscape Management Handbook series for further guidance

#### LEGEND

FULLY COMPATIBLE - Conditions that meet or exceed the norm.

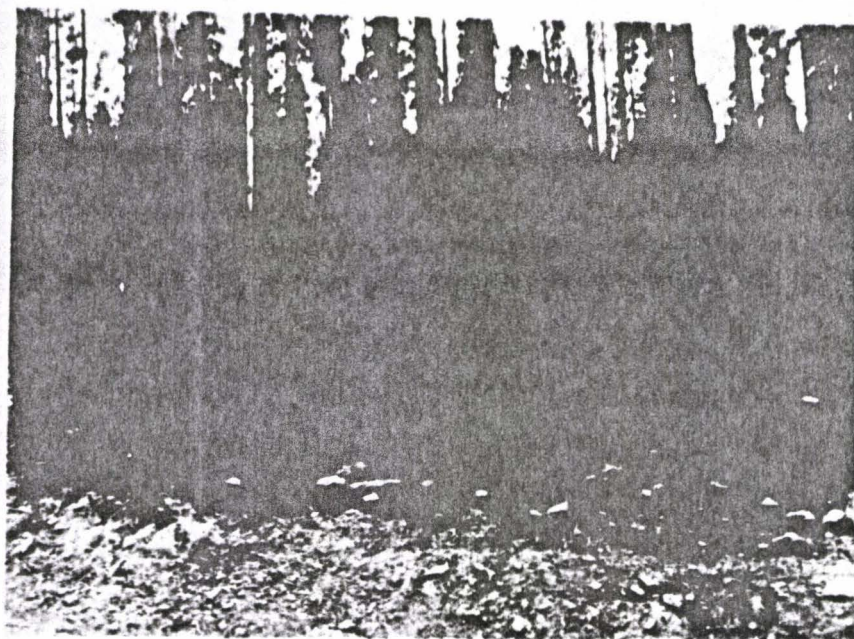
NORM ----- The normal conditions in the physical setting.

INCONSISTENT ----- Conditions that are not generally compatible with the norm, but may be necessary under certain circumstances to meet the management objective.

UNACCEPTABLE----- Unacceptable conditions under any circumstances for a given setting.

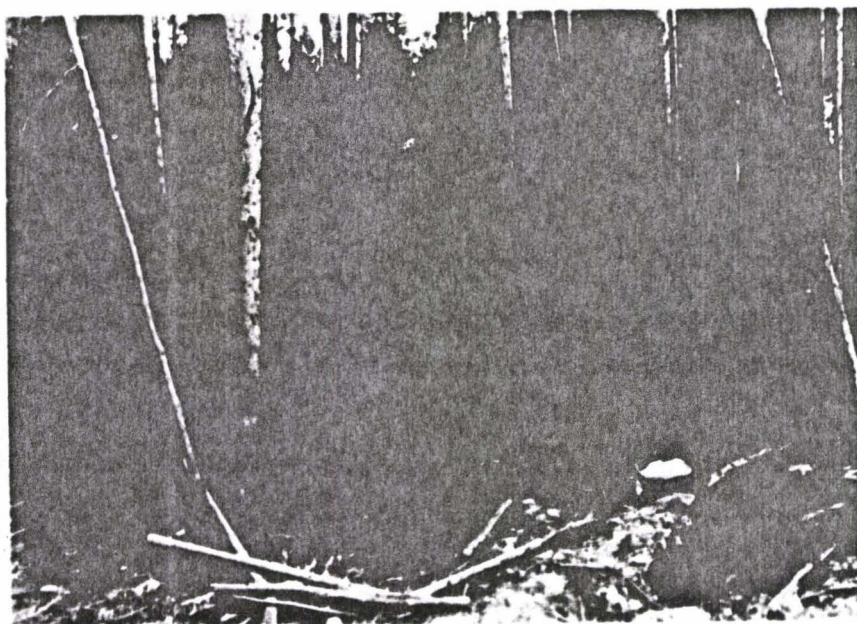
**Appendix P**



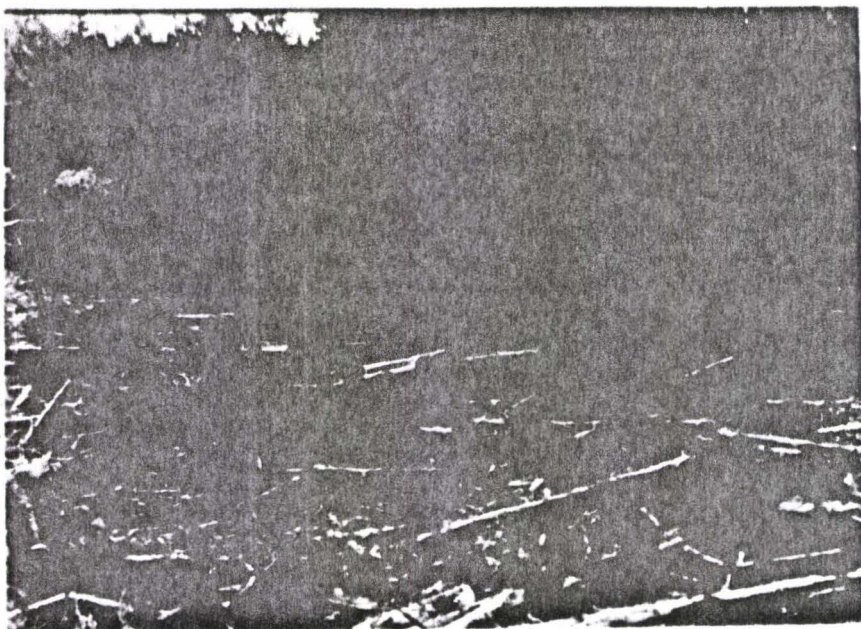


Complexity and depth are often realted, particularly along roadsides. Most people would tend to favor the scene above because it is moderately complex and has a moderate to high level of depth that can be perceived unambiguously.

Appraised threat is negligible or absent in the scene above but it is not too clear just what might lurk in the scene below. This causes hesitancy to move into the scene, either emotionally or physically. Where would you venture quickly and freely?

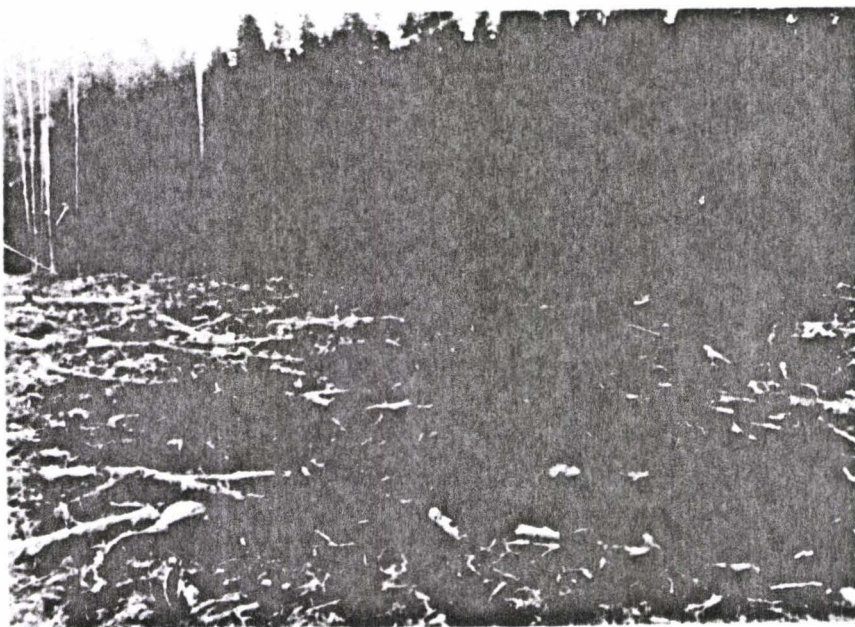


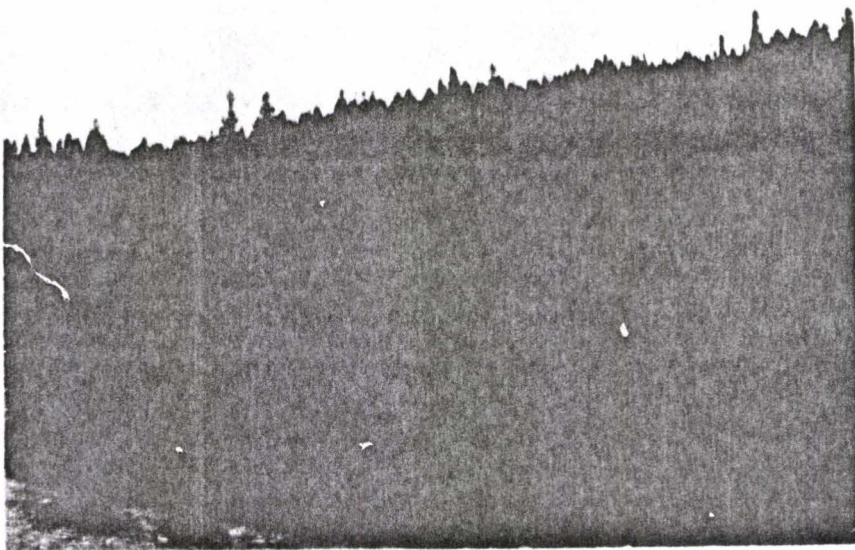




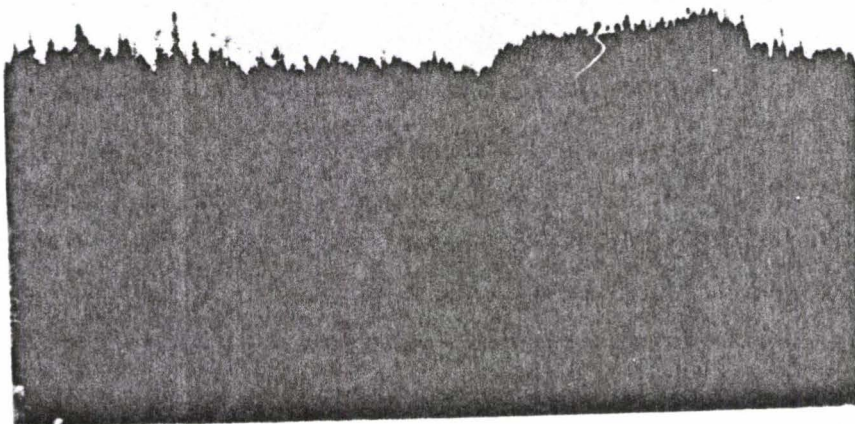
Ground surface texture tends to be homogeneous and even and is appraised as conducive to movement in preferred scenes. The degree of ground clutter is also related to complexity and level of depth.

Contrast the above scene with the situation in the lower photograph where slash has been treated by roto-chopping. Which do you find most pleasing?

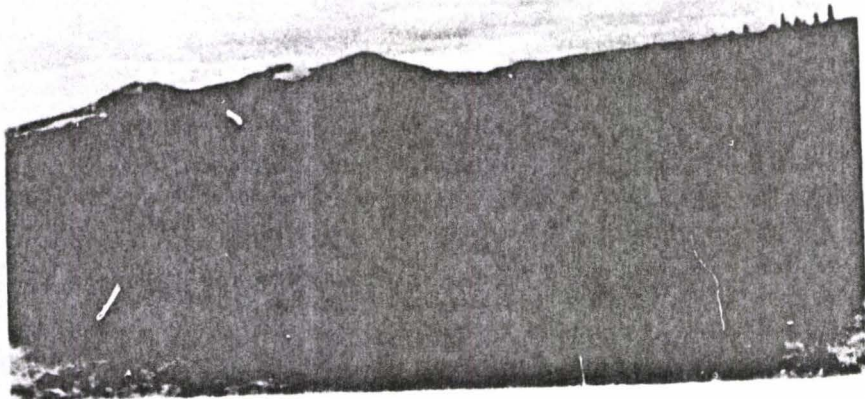




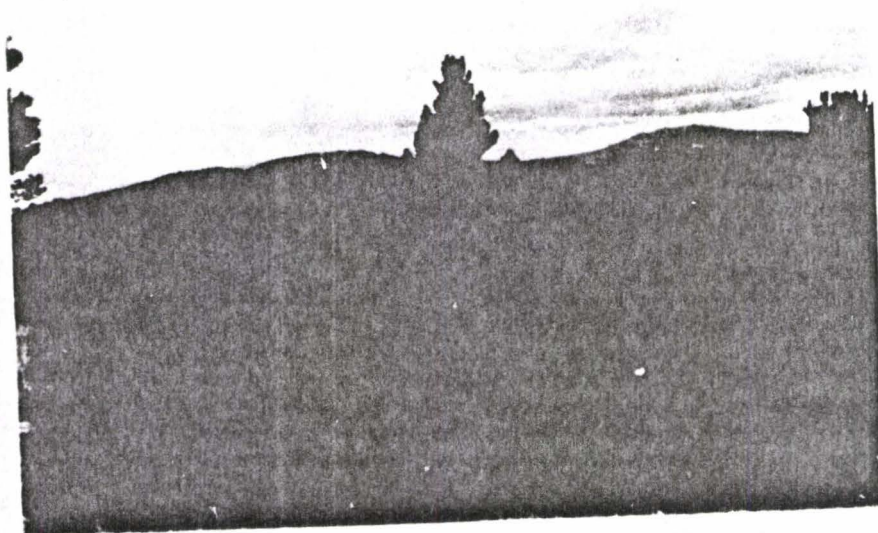
A deflected vista is present. This not only establishes a focal point but adds interest by drawing the viewer into the depth of the scene. What lies around the suggested or real corner? The unthreatening, homogeneous surface actually invites further exploration.





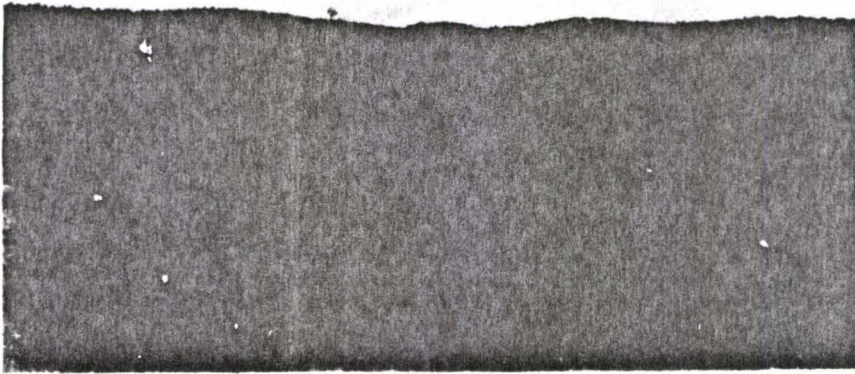


Several of the openings on the background ridge are timber harvest units. Can you tell the natural ones from the designed openings? Created openings are synonymous with this area's landscape character.

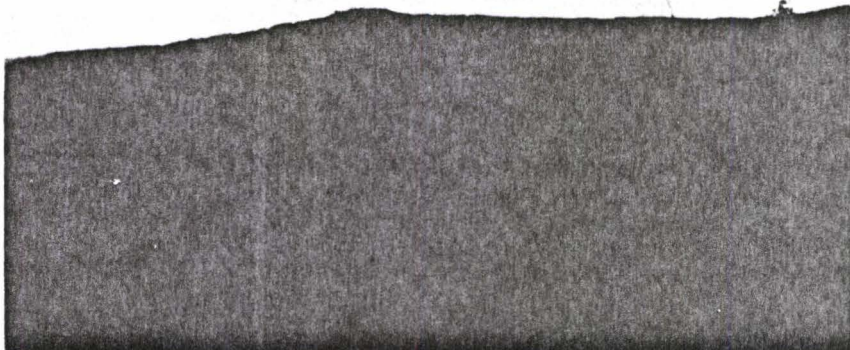


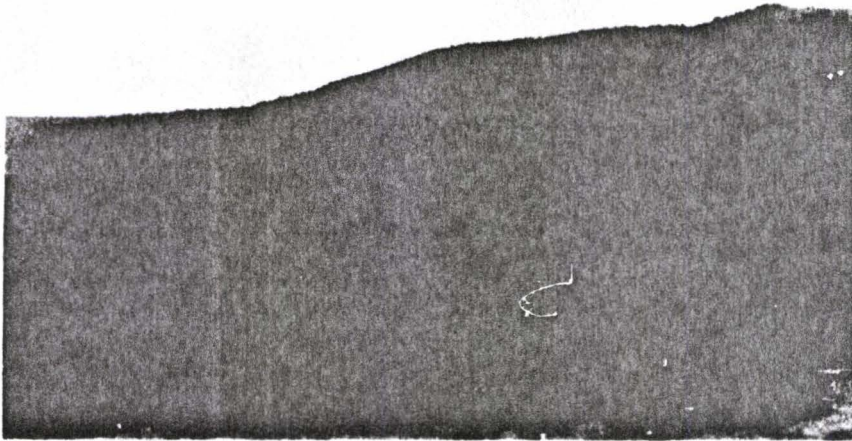
The unit at left-middleground is a created opening in total harmony with the characteristic landscape.





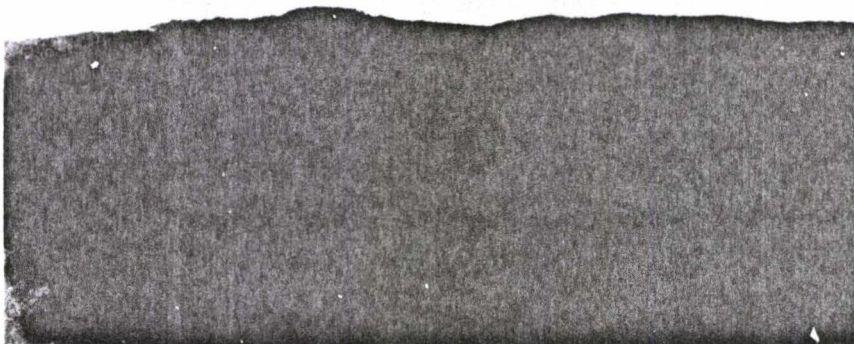
Axis of shape should be parallel to slope contours or parallel to minor ridges running down slopes. Units need to have visual linkage as shown above.



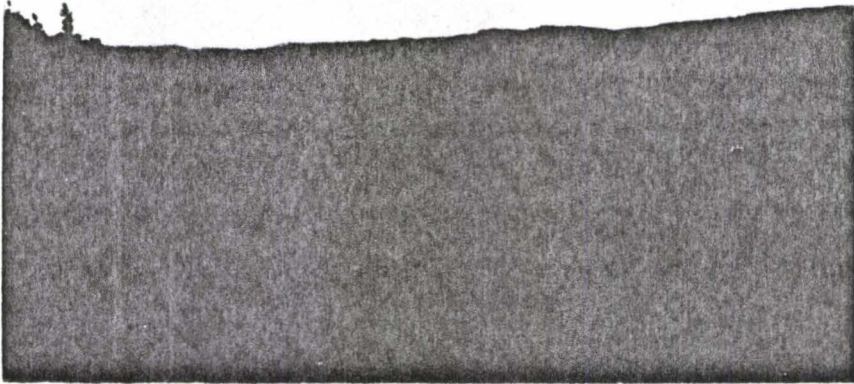


The harvest unit on the middleground ridge has been recently modified to eliminate previous straight-line edges. This will aid in blending the cut unit to natural openings in the area.

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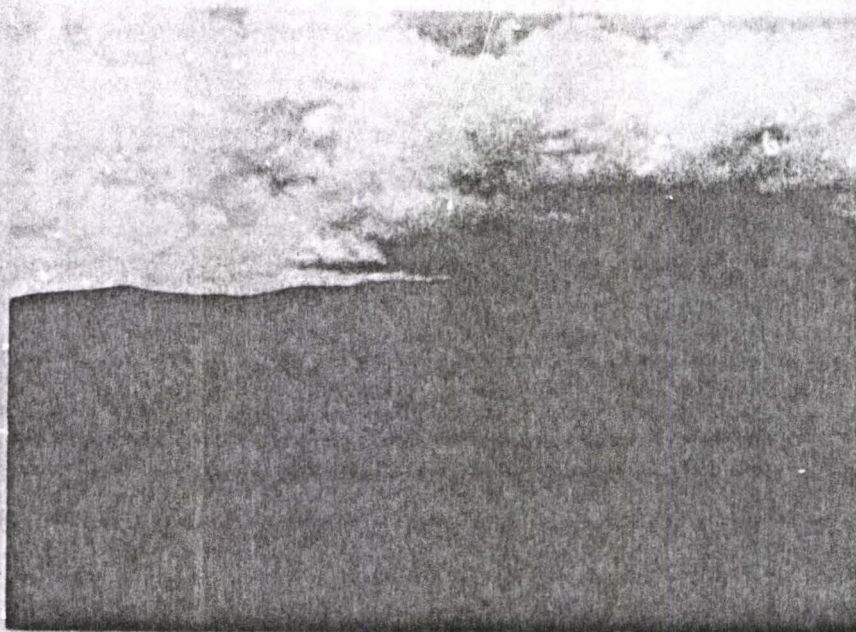
Harvest units in the background emulate natural opening scale and shape. They are of varied size and shape. Can you determine which are natural and which are created?



Avoid leaving small strips between treated stands, the area left should be of sufficient size to be considered a manageable stand.







Opening characteristics match the model of preferred naturalness along principal human travel routes. The openings above are totally natural. Those below are created.

